REMARKS

CLAIM OBJECTIONS

Applicant amended Claim 1 to replace "partlyor" with "partly or" pursuant to the Examiner's requirement.

DRAWINGS

The Examiner has required Applicant to show "nanometer scale" in Claim 1 or cancel that limitation from the Claim 1. Applicant respectfully traverses the Examiner's requirement. A drawing depicting "nanometer scale" is not "necessary for the understanding of the subject matter sought to be patented." (37 CFR 1.81). Applicant submits that the structural features of the subject matter sought to patented are illustrated in the drawings and that drawings are not necessary to understand the feature of being in "nanometer scale." Applicant respectfully requests for the Examiner to reconsider this objection.

SPECIFICATION

The Examiner has objected to the Specification as lacking a description of each and every element of the drawings. Applicant submits that each of the features shown in the Drawings is described in the "Detailed Description of the Invention" and as such Applicant respectfully traverses this rejection. However, to more clearly delineate where specific features are shown in the Drawings, Applicant has amended the Specification to include reference numerals corresponding to reference numerals found in the Replacement Drawing sheets submitted following the signature page of this amendment.

CLAIM REJECTIONS 35 USC 103

Claims 1-23 have been rejected as being obvious over Tangen in view of Burger.

Applicant respectfully traverses this rejection and submits that Tangen or Burger individually or in combination neither anticipate nor render obvious the claimed invention. Tangen is related solely to **micro**-cameras. By contrast, the instant invention is a **nano**-camera. The difference is not merely one of scale. If that were the case, then even Tangen would be unpatentable in light of an already known telescope array, the Very Large Array.

Applicant solves unique problems that Tangen does not even attempt to solve. The Tangen patent is a *micro* camera operating on Newtonian principles as do all other cameras.

Applicant's invention is a *nano*-imaging device/camera as required in Claim 1 and solves problems unique to photon and wave behavior at quantum levels, as recited in Claims 16-20. The inventive *nano*-camera admits only certain wavelengths of light based on aperture variation and diffraction at this sub-micron level. It therefore solves problems unique to *nano*-level light and in fact takes advantage of the principal to produce a spectrographic imaging device suitable to many other areas other than normal photography, such as spectrographic chemical analysis of a large field, and is applicable to instantaneous data transfer receiving and transmitting at megabyte and above levels via pattern recognition with its multiple parallel imbedded processors which solves problems in photon computing.

The Examiner notes that Tangen "does not disclose a nano-imaging apparatus comprising optical elements in a nanometer scale," but that in view of Burger "it would have been obvious to one of ordinary skill in the art...to reduce the micro camera to nano level." The Examiner cited Figs 12A-12E of Burger (and accompanying text Col. 25, line 28 "a series of nanometer wide cuts") as support for his position. Applicant respectfully disagrees with the Examiner's assertion in view of the following.

Neither Tangen nor Burger teaches optical elements of sub-micron, nanometer scale as set forth in Claim 1. Thus, the cited reference either individually or in combination do not teach or suggest an imaging device having optical elements of nanometer scale. The lenses disclosed in the Burger reference are +/- 168 μm, which are not in a nanometer scale. Moreover, the "nanometer wide cuts" disclosed by Burger are intended to modify the index of refraction of the lenslets. Such practice was well known in the prior art – even at the time of the Burger filing. The "nanometer wide cuts" thus describe cuts made to a prior art lens – and do not describe a lenslet or optical device in nanoscale. There is as such no teaching in the prior art that teaches or suggests the use of optical elements of nanometer scale.

In view of the above, Applicant respectfully disagrees with the Examiner's assertion that "it would be obvious to reduce the micro-camera of Tangen to nano level." As stated above, there is nothing in the prior art that teaches or suggests a reduction to the nano level.

The Examiner further states that the motivation to reduce to the nano level "is to be able to reduce the camera...without sacrificing image quality." Applicant respectfully disagrees with the Examiner's assertion. One of ordinary skill in the art would recognize that reducing to the nano scale *would* in fact sacrifice image quality. The overlapping information obtained by the array of optical elements would result in a fuzzy, poorly defined image. As such, Applicant submits that

there would be no motivation to reduce to nano scale – as is stated by the Examiner.

The foregoing analysis notwithstanding, Applicant has amended Claim 1, to clearly distinguish the invention. Claim 1 was amended to recite "an imaging apparatus...comprising multiple optical elements of sub-micron, nanometer scale having more than one pixel per optical element. The prior art does not teach, or suggest an imaging device that has more than one pixel per optical element. With this novel arrangement "the optical elements...become an imaging device itself rather than a light sensor." (See ¶ 40 of Applicant's publication).

Applicant notes that Burger is not "in the same field of endeavor" as the invention set forth in the Claims as suggested by the Examiner. Burger discloses a lens that is meant to adapt a traditional film-formatted camera for use with an electronic device such as a CCD array. The Burger reference discloses a single optical device/lens and in no manner attempts to create **multiple** mini or nano cameras as set forth in the instant Claims. Burger discloses a lens system for a single image plane, such as film – not multiple cameras.

In light of the above, Applicant believes that Claim 1 is distinguished from and therefore patentable over Tangen and Burger. The dependent Claims are similarly limited and therefore believed to be allowable.

Respectfully submitted,

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